



Assessment Results of Geologic Mapping, Geophysical Surveying,

Geochemical Soil Sampling and Diamond Drilling of the

Felix Claims NTS 105-L-8

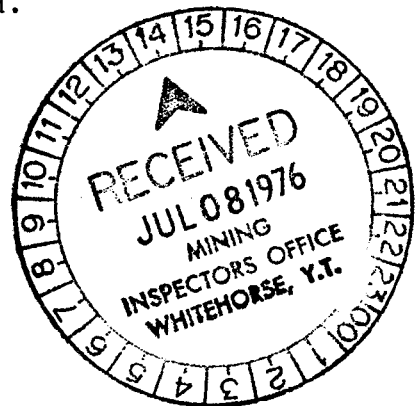
Located at 62°25'N Latitude, 134°15'W Longitude

by C. N. Forster, Geologist

under the supervision of R. D. Westervelt, P. Eng.

June 23, 1975 to August 17, 1975

Union Carbide Canada Mining Ltd.





This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

\$90,000.00

A handwritten signature in cursive script, appearing to read "D. B. Craig", written over a horizontal line.

~~Resident Geologist or  
Resident Mining Engineer~~

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

A handwritten signature in cursive script, appearing to read "B. R. Baxter", written over a horizontal line.

B.R. BAXTER  
Supervising Mining Recorder

For Commissioner of Yukon Territory

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NB: Figures 3 to 10 in pocket.

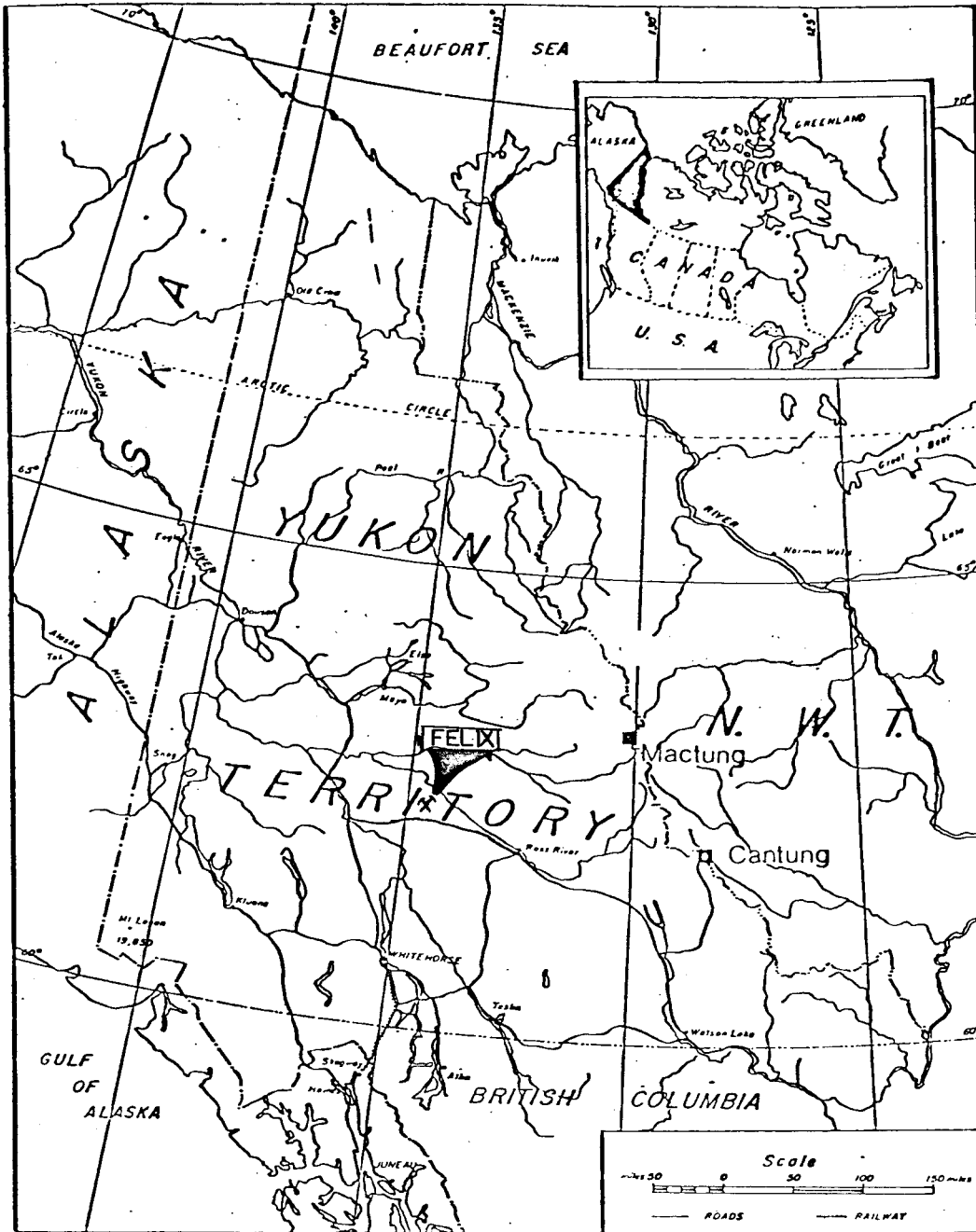
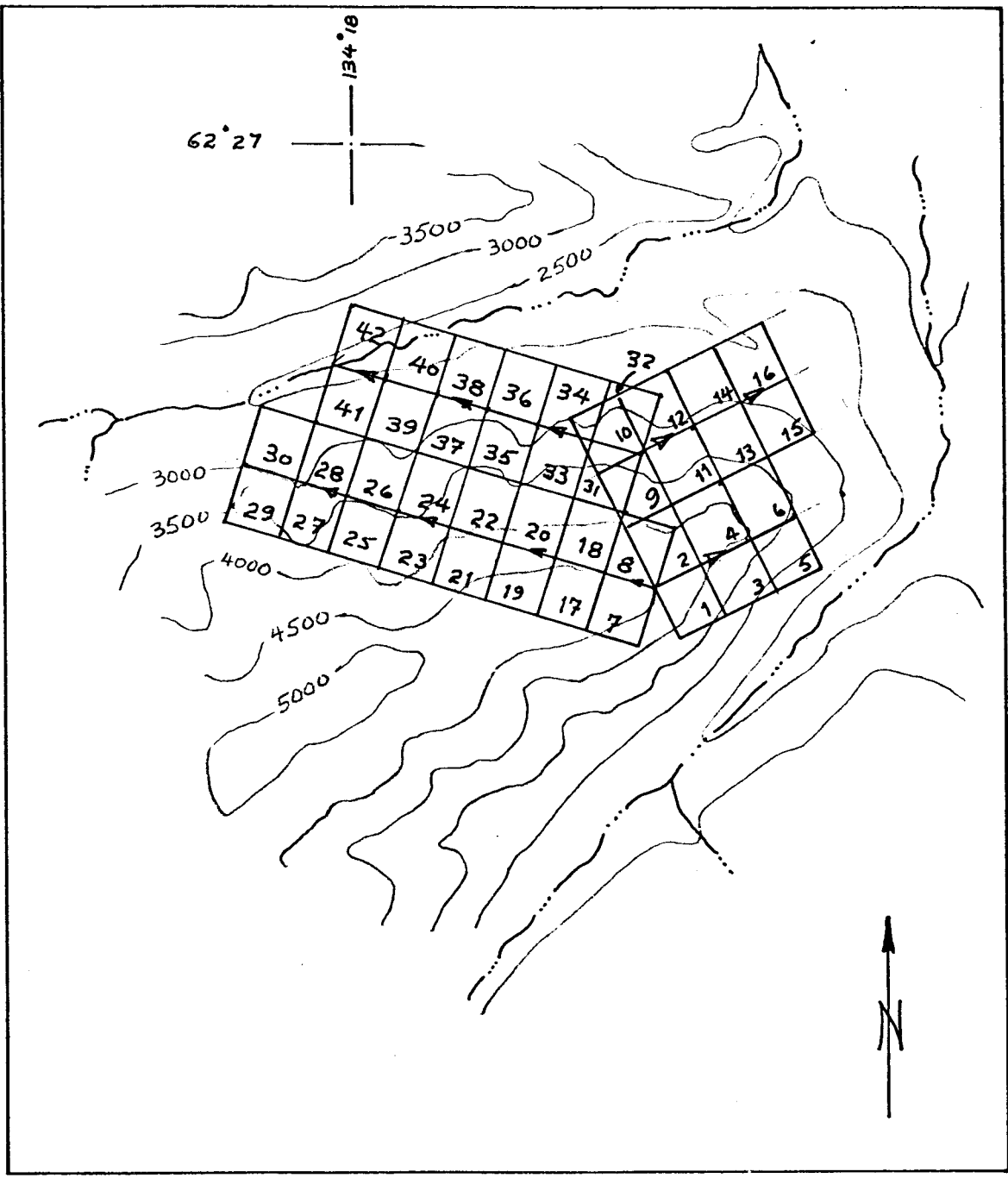


FIGURE 1

FELIX CLAIMS 105-L-8



Legend

FELIX 1-42

NTS: 105-L-8

Scale 1:50,000

Union Carbide Exploration

INTRODUCTIONLocation

The Felix Claims block consisting of 42 claims were located on NTS Map Area 105-L-8, 34 miles northwest of the town of Faro between Felix and Jar Creeks.

Claim Data

All claims transferred to Union Carbide Canada Mining Ltd.  
#404-1112 West Pender Street,  
Vancouver, B.C. V6E 2S1.

<u>Claim No.</u>	<u>Staker</u>	<u>Date</u>	<u>Recorded</u>	<u>Transferred</u>
Y99090 Felix 1	M. Coutu	22 June 75	9 July 75	14 Oct 75
Y99091 Felix 2	"	"	"	"
Y99092 Felix 3	"	"	"	"
Y99093 Felix 4	"	"	"	"
Y99094 Felix 5	"	"	"	"
Y99095 Felix 6	"	"	"	"
Y99096 Felix 7	"	28 June 75	"	"
Y99097 Felix 8	"	28 June 75	"	"
Y99098 Felix 9	R.I. Moore	21 June 1975	"	"
Y99099 Felix 10	"	"	"	"
Y99100 Felix 11	"	"	"	"
Y99101 Felix 12	"	"	"	"
Y99102 Felix 13	"	"	"	"
Y99103 Felix 14	"	"	"	"
Y99104 Felix 15	"	"	"	"
Y99105 Felix 16	"	"	"	"
YA3030 Felix 17	C.N. Forster	28 June 75	18 July 75	6 Nov 75
YA3031 Felix 18	"	"	"	"
YA3032 Felix 19	"	"	"	"
YA3033 Felix 20	"	"	"	"
YA3034 Felix 21	"	"	"	"
YA3035 Felix 22	"	"	"	"
YA3036 Felix 23	"	"	"	"
YA3037 Felix 24	"	"	"	"
YA3038 Felix 25	G. Baker	"	"	14 Oct 75
YA3039 Felix 26	"	"	"	"
YA3040 Felix 27	"	"	"	"
YA3041 Felix 28	"	"	"	"
YA3042 Felix 29	"	"	"	"
YA3043 Felix 30	"	"	"	"
YA3044 Felix 31	"	"	"	"
YA3045 Felix 32	"	"	"	"
YA3046 Felix 33	K. Tedder	"	"	10 Dec 75
YA3047 Felix 34	"	"	"	"
YA3047 Felix 35	"	"	"	"
YA3048 Felix 36	"	"	"	"

<u>Claim No.</u>	<u>Staker</u>	<u>Date</u>	<u>Recorded</u>	<u>Transferred</u>
YA3049 Felix 36	K. Tedder	28 June 75	18 July 75	10 Dec 75
YA3050 Felix 37	"	"	"	"
YA3051 Felix 38	"	"	"	"
YA3052 Felix 39	"	"	"	"
YA3053 Felix 40	"	"	"	"
YA3020 Felix 41	R. Kuehnbaum	"	15 July	10 Oct 75
YA3021 Felix 42	"	"	"	"

### Personnel

Approximately 150 man days were spent collecting the following data by:

C. Forster - Party Chief, Geologist	8 days
B. Norris - Geologist	2
T. Liverton - Geologist	2
R. Kuehnbaum - Geologist	4
K. Tedder - Student assistant	10
M. Coutu - Student assistant	10
G. Baker - Expediter	2
L. Hemmingson - Labourer	15
W. Rondeau - Labourer	15
W. Barclay - Geophysicist	4
A. Boniwell - Geophysical assistant	4
R. Moore - Geologist	30
C. Rendle - Geophysical assistant	4
2 Drillers from Wink International Drilling Ltd	<u>20 +20</u>

150 man days

### Work Done

Two chain and compass survey grids were established to provide control for geological mapping, geochemical soil sampling, geophysics and diamond drilling.

These grids consisted of:

1. A 2600' base line, oriented N30E-S30W, picketed at 200' intervals with perpendicular grid lines turned off at each picket and flagged at 50' intervals. Lengths of the lines are random but total 9500 line feet.
2. A 6800' base line, oriented S75°E-N75°W, with 200' spaced pickets and perpendicular grid lines. Total line length, 28000'.

See Figures 4 and 5 for details as to grid location and line lengths. Total line including base line marked in the field was 46,900'. Only portions of the base lines were cut, the remainder including the grid lines, were only flagged and blazed. Compass, chain and pace were used for directional and distance control.

### Geochemistry

752 soil samples were collected along the grid lines and analyzed for Cu, Zn and Mo and scheelite grains.

### Geophysics

3200' of line were surveyed with a proton magnetometer and a VLF EM-16.

### Geology

The two grids were geologically mapped at a scale of 1" = 100'.

### Diamond Drilling

2 holes totalling 177' were drilled with a Winkie drill using IAX rod.

### Logistics

The above work was performed mainly from a two tent "fly camp" located on the property, with additional support from the reconnaissance base camp at Mile 278 on the Campbell highway. Access was with a Frontier G-3B2 helicopter flown by Al Jackson. Groceries were all supplied from base camp.

### GEOLOGY

The Felix claims are underlain by schist, gneisses, quartzites, marbles and calc-silicate skarns of the Lower Cambrian portion of the Harvey Group (Campbell 1967), and the Cretaceous quartz-monzonite Glenlyon Batholith. These meta-sediments form a pendant in the intrusive and have been intruded by a number of small, leucocratic, felsic apophysis derived from the granite. Structurally, the meta-sediments dip approximately 40° north with no evidence, as yet, of folding or faulting. The attitude of the granite-pendant contact is not defined due to poor exposure.

### MINERALIZATION

The principal mineral of interest to Union Carbide is scheelite with sphalerite as an accessory. These two minerals occur as disseminations in diopside, garnet, quartz, tremolite skarns developed in close proximity with the quartz monzonite batholith and its apophysis. These skarns indicate a potential strike length of 10,000', albeit the outcrop is extremely limited. Actual mineralized showings are sporadic and very limited in length and thickness.

To date, the main showing has an outcrop extent of 300' with a thickness of 2'. Grades of mineralization are varied and results of assay from selected hand specimens are shown on Figure 6. DDH-5-1 and DDH-5-2 were drilled to test this particular showing and indicated less than 0.10% WO<sub>3</sub> and 4% Zn (visual estimates only - core not assayed) across a 2' thickness.

Massive pyrrhotite, chalcopyrite, scheelite skarns of the Cantung type are not recognized or suspected in Felix from the work done to date.

For details of the limited number of assays of selected hand specimens, please see the Appendices and Figure 6.

## GEOCHEMISTRY

Approximately 750 samples of soil were collected and analyzed for copper, zinc, molybdenum and scheelite content. The Cu, Zn and Mo analysis were performed by Bondar Clegg Laboratories in Whitehorse using the standard atomic absorption procedures.

The scheelite analyses were performed by Union Carbide's field crew as follows: approximately 4 pounds of B or C horizon soil was collected at each sample location (50' intervals along the 200 to 600' spaced grid lines). These were transported to base camp and individually panned (gold pan) to a magnetite concentrate. The concentrate was subsequently dried and examined under a short-wave ultra violet lamp. The scheelite grains, which fluoresce under U.V. light, were then systematically counted.

All of the above results are plotted on the accompanying Figures 4 and 5, and contoured. Anomalous values were estimated to exceed 60 counts of scheelite, 250 ppm. Zn, 55 ppm Cu and 9 ppm Mo. All concentrates and pulps are presently being stored.

Results of the above defined a number of anomalous zones, both coincident with exposed mineralization and in areas of extensive overburden. These are shown on the accompanying geochemical figures and are considered significant enough to warrant further evaluation.

## GEOPHYSICS

Magnetic and V.L.F. (EM-16) readings were taken along the S75E-N75W grid at 100' intervals along the lines indicated on Figure 7. Purpose of these readings was to define possible areas of pyrrhotite, massive sulphide skarn.

One magnetic anomaly was defined in an area not coincident with known skarn or anomalous geochemistry and is shown on Figure 8. This anomaly is unexplained and is probably the same anomaly defined on the government areo-magnetic maps 105-L-8. (See Figure 9).

The V.L.F. EM-16 survey did not encounter significant conductors and a blueprint of the profiles is presented on Fig 10a and b.

## DIAMOND DRILLING

Two diamond drill holes were drilled to test the best mineral outcrop for grade, thickness and depth extent. Located as shown on Figure 6, DDH-5-1 was drilled to 23'6" and DDH-5-2 to 150'6". Attitude of the No. 1 hole was 220°/-55°, and the No. 2 hole was 220°/-45°. Mineralization was found to be extremely weak and the results generally disappointing

The drilling did not, however, test the down dip extension of the stronger geochemical and magnetic anomalies.

## CONCLUSIONS

Although the mineralization observed to date is not comparable to Cantung or Mactung in tonnage, grade, or type, it is considered by Union Carbide sufficient to continue exploration work in 1976.

This work will consist of detailed geological mapping, supplemented with geophysics (E.M. and Mag) and soil-silt geochemistry. The purpose will be to develop sufficient potential to warrant a drill program in the following season.

Respectfully submitted,

*C. N. Forster*

*per.* C. N. Forster

*R. D. Westervelt, P. Eng.*

R. D. Westervelt, P. Eng.

2 June 1976.





FIGURE 3

Scale and elevation datum based on limited ground control resulting in good relative, but uncertain, correlation with other photography or an approximate scale of 1 inch equals 3000 feet based on 1971.

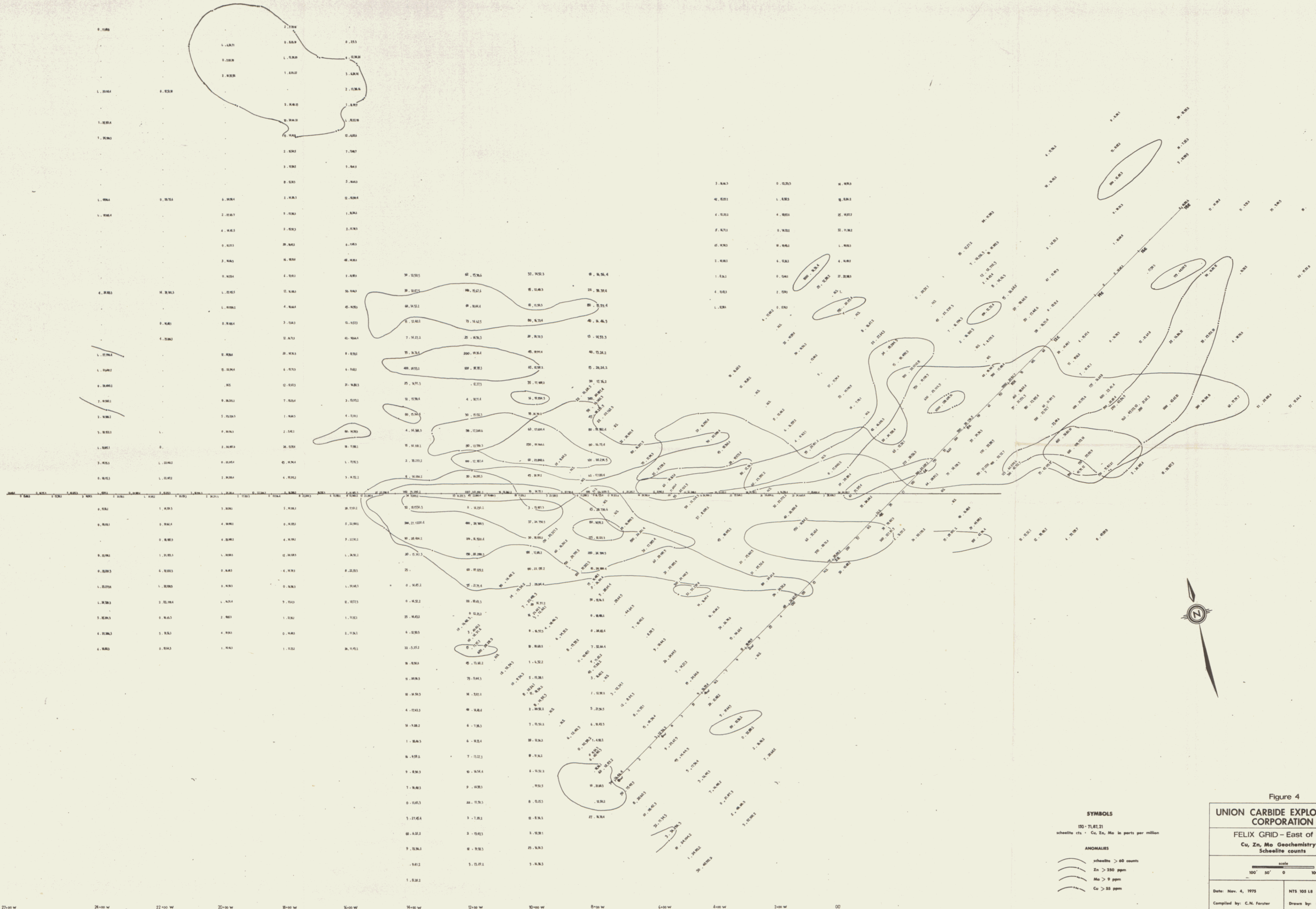
UNION CARBIDE EXPLORATION CORP.  
 GLENLYON RIVER: FELIX 1-42

PRELIMINARY RECONNAISSANCE TYPE MAPPING

Scale	1" = 400'
Contour Interval	100 Feet
Date	October 18, 1975
Drawn by	CHS
Sheet No.	1 of 1

McElhenny  
 Surveying &  
 Engineering Ltd.  
 1200 West Pender Street, Vancouver, B.C. Canada

SCALE REDUCED TO  
 1 inch equals 800 feet.



**SYMBOLS**  
 150 - 71,81,21  
 scheelite cts - Cu, Zn, Mo in parts per million

**ANOMALIES**

- (---) scheelite > 60 counts
- (---) Zn > 250 ppm
- (---) Mo > 9 ppm
- (---) Cu > 55 ppm

Figure 4  
 UNION CARBIDE EXPLORATION CORPORATION  
 FELIX GRID - East of 27°00'W  
 Cu, Zn, Mo Geochemistry & Scheelite counts

scale  
 100' 50' 0 100'

Date: Nov. 4, 1975  
 Compiled by: C.N. Forster  
 Drawn by: gjb

27°00' W 26°00' W 25°00' W 24°00' W 23°00' W 22°00' W 21°00' W 20°00' W 19°00' W 18°00' W 17°00' W 16°00' W 15°00' W 14°00' W 13°00' W 12°00' W 11°00' W 10°00' W 00



① Helipert  
 Stream  
 Outcrop  
 Contact (defined)  
 Dip and Strike  
 00, 71, 01, 2  
 scheelite - etc. - Cu, Zn, Mo in parts per million  
 - denotes lost

Figure 5

**UNION CARBIDE EXPLORATION CORPORATION**

FELIX GRID - West of 27°00'W  
 Geology, Cu, Zn, Mo Geochemistry & Scheelite counts

Scale  
 100' 50' 0 100'

Date: Nov. 4, 1973 NTS 105 L8  
 Compiled by: C.N. Forster Drawn by: gjh

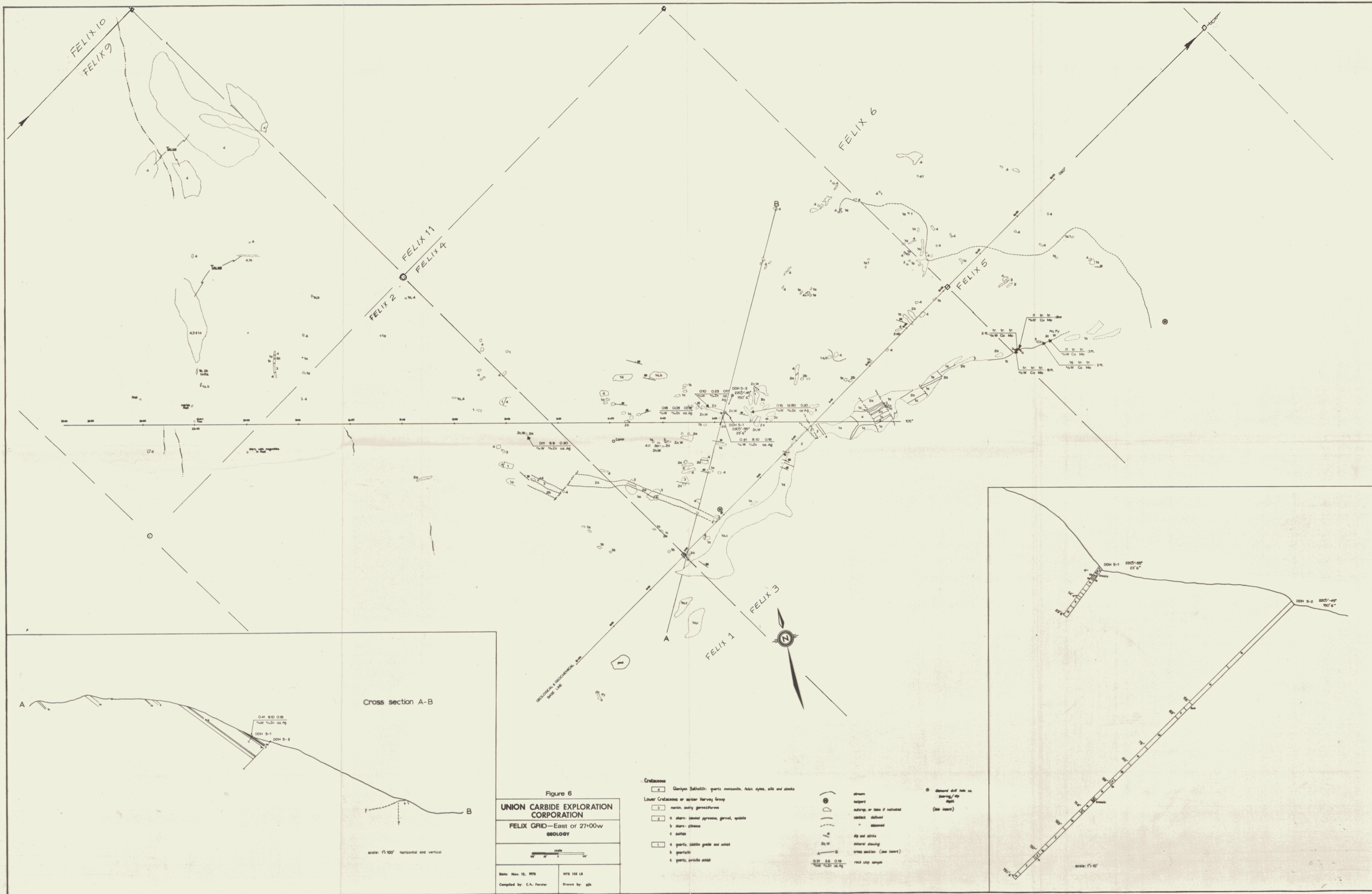


Figure 6  
**UNION CARBIDE EXPLORATION CORPORATION**  
**FELIX GRID—East of 27°00'W**  
**GEOLOGY**

Scale: 1" = 100'

Date: Nov. 12, 1975 NTS 105 LB  
 Compiled by: C.H. Forster Drawn by: gjh

- Cretaceous**
- 4 Glenyon Subolith: quartz, nepheline, alkali feldspar, mica and zircon
  - Lower Cretaceous or earlier Harvey Group
  - 3 main: sandy gneiss/porphyry
  - 2 alkali: laminated pyroxene, garnet, epidote
  - 1 quartz: biotite, garnet and zircon
  - quartzite
  - quartz: sericite schist
- Structures**
- stream
  - outcrop, or base of indicated
  - contact: defined
  - unconformity
  - dip and strike
  - mineral staining
  - cross section (see insert)
  - rock chip sample
- Other Symbols**
- diamond drill hole no. bearing/dip depth (see insert)

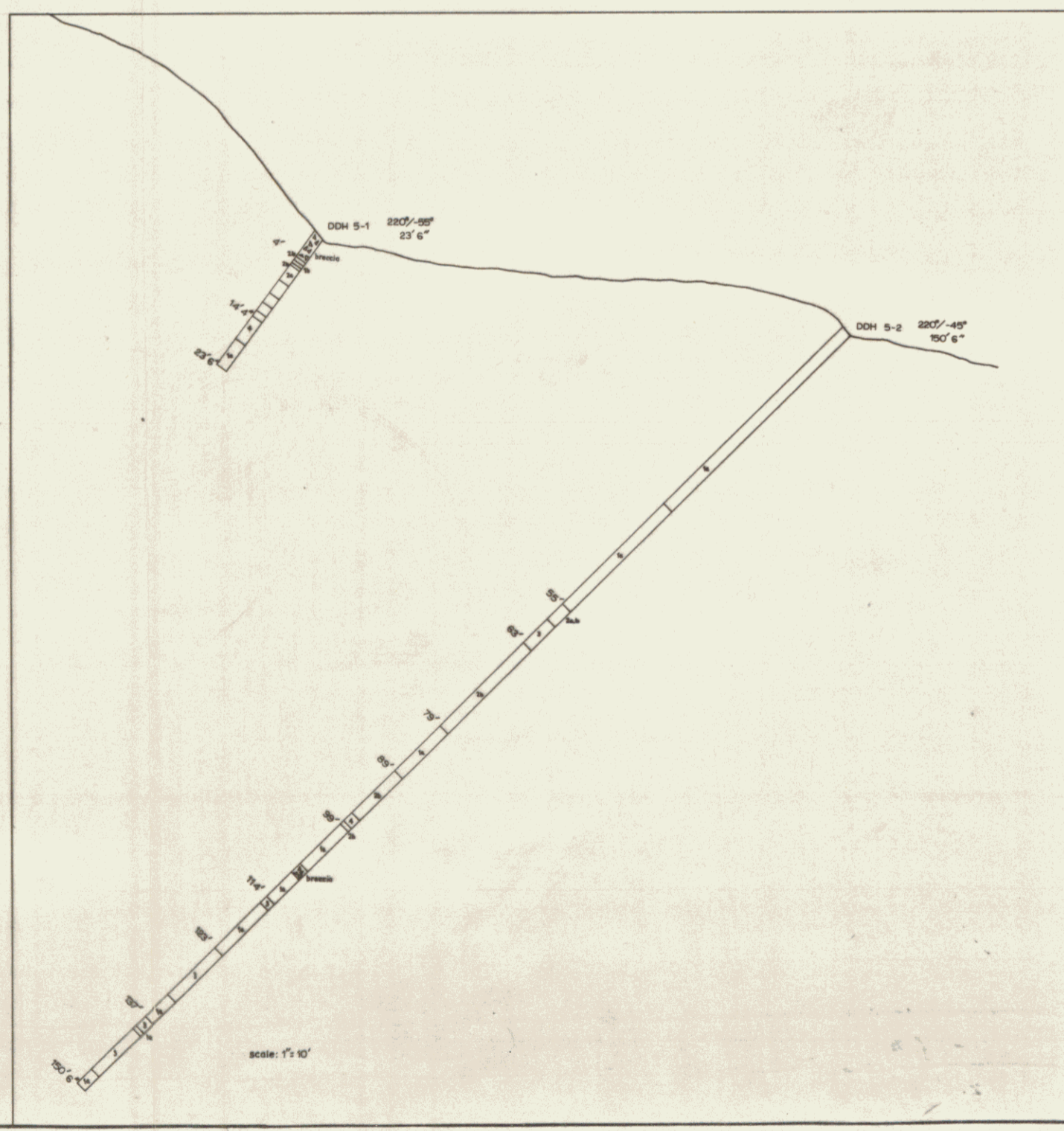
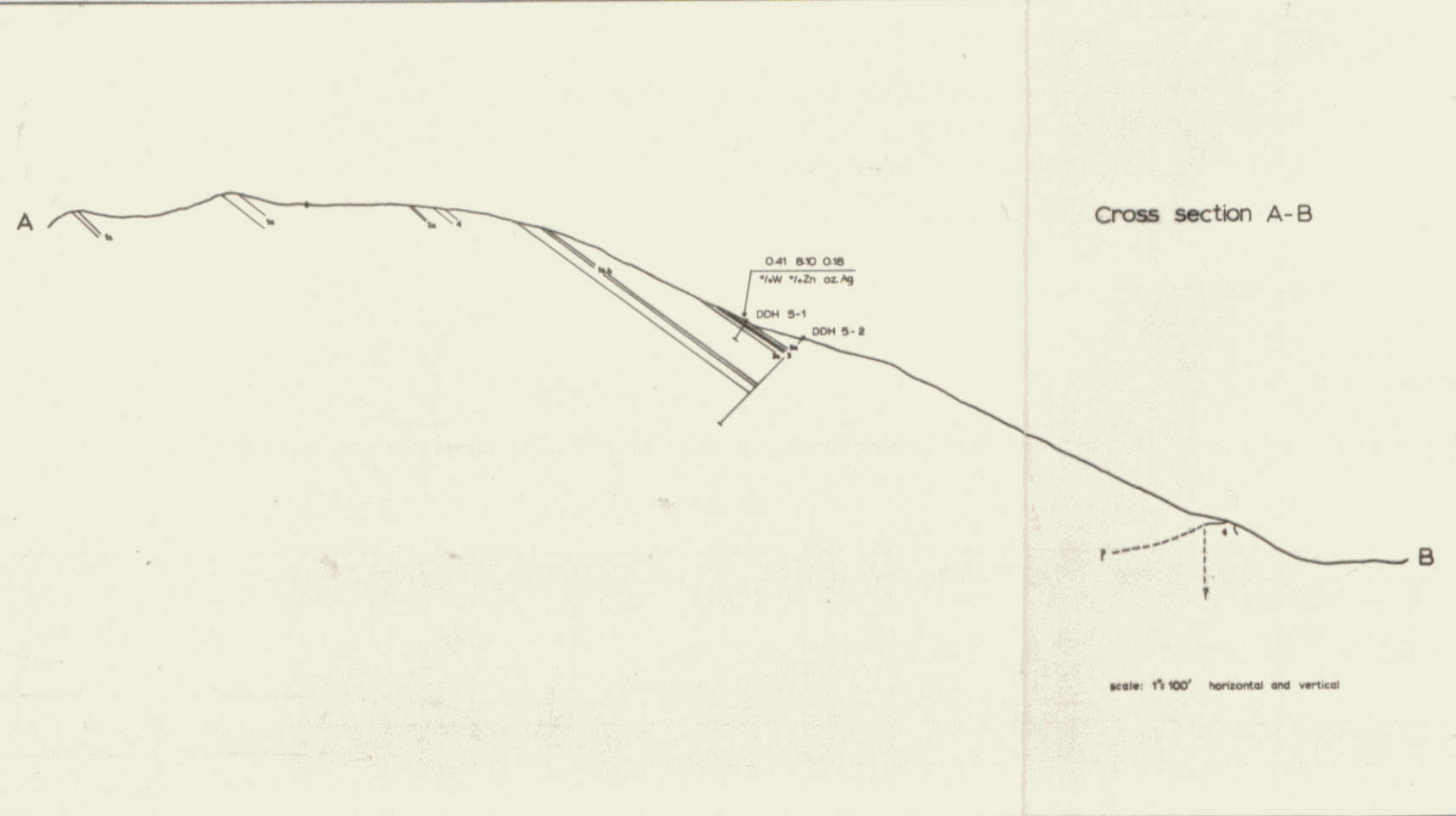
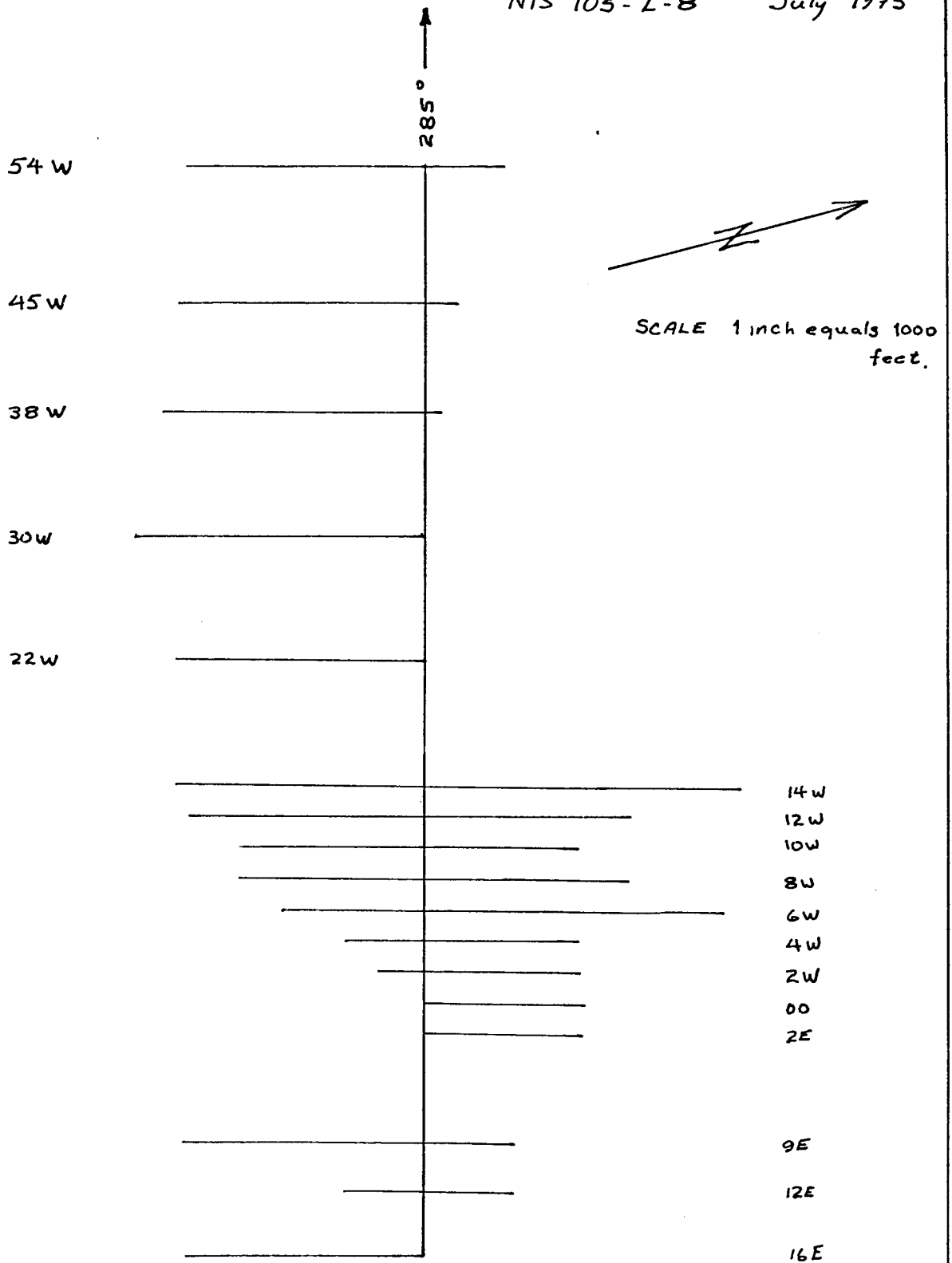


FIGURE 7

UNION CARBIDE EXPLORATION

GEOPHYSICAL SURVEY

NTS 105-L-8 July 1975



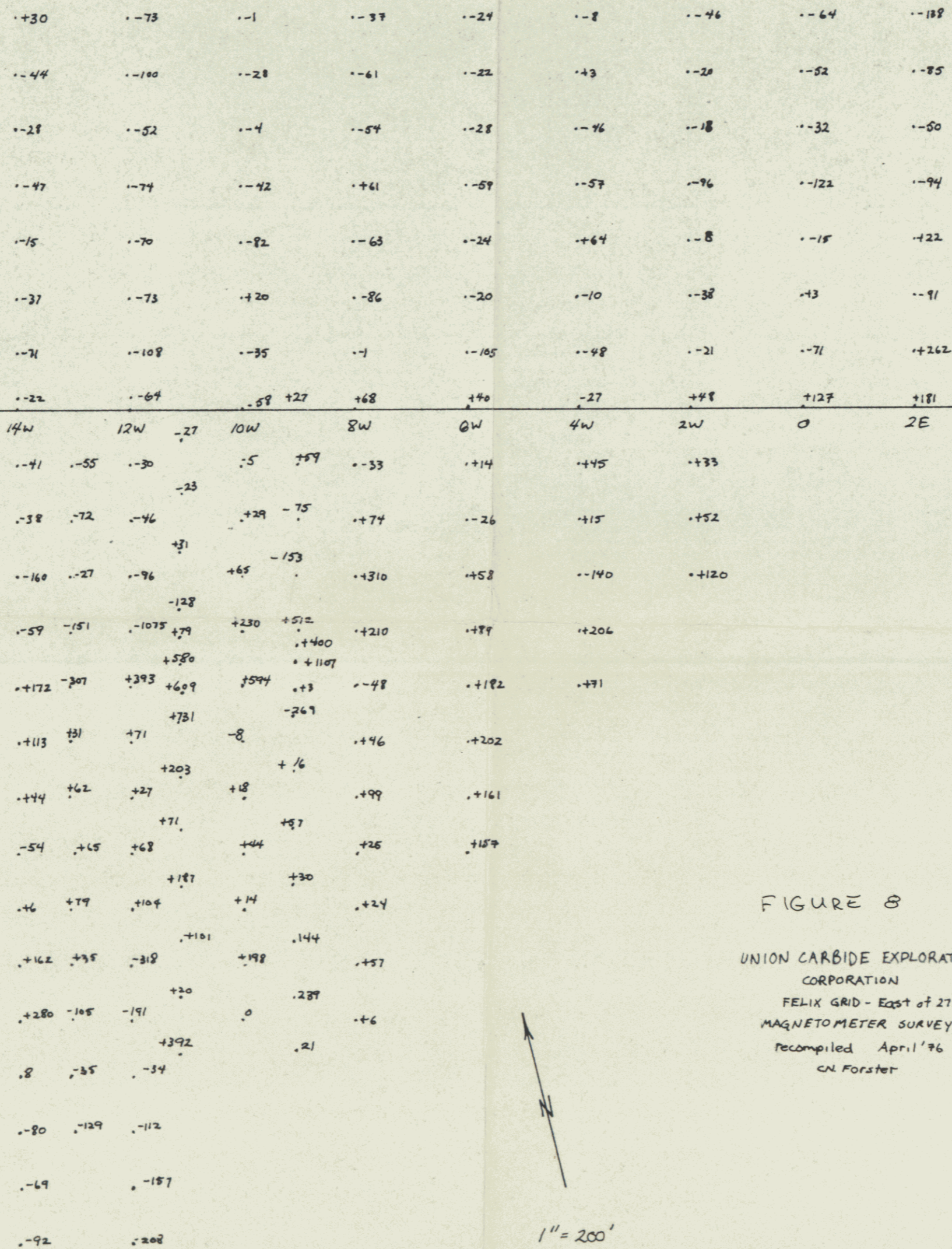
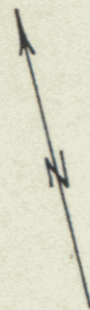


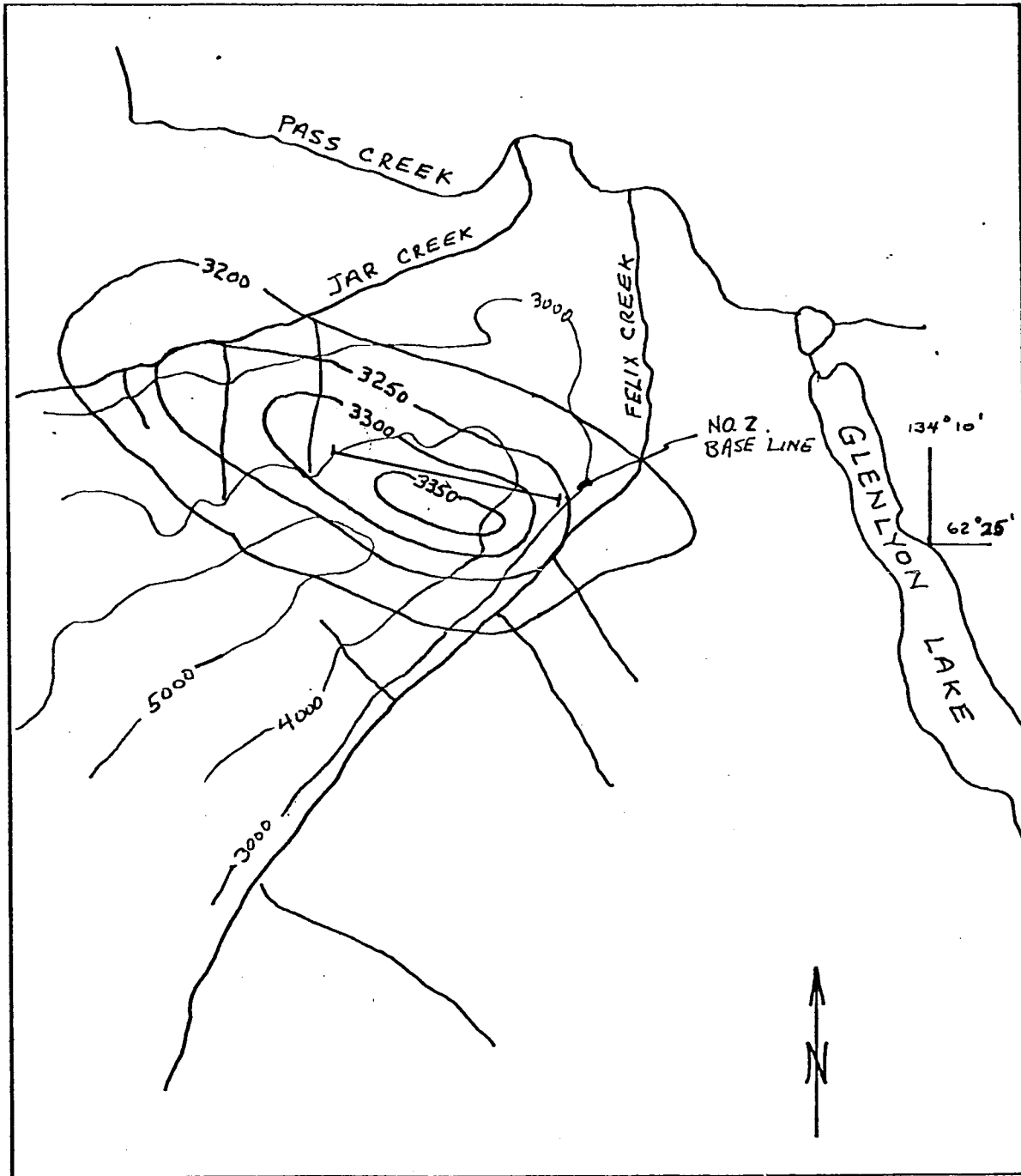
FIGURE 8

UNION CARBIDE EXPLORATION  
CORPORATION  
FELIX GRID - East of 27+00W  
MAGNETOMETER SURVEY  
Recompiled April '76  
C.N. Forster



1" = 200'

NB: Readings in gamas with respect to a base station 0.



Legend 50 g contours  
1000' topographic contours

Scale 1 inch equals 1 mile

Union Carbide Exploration

FIGURE 9.

FIGURE 10: VLF-EM + MAGNETOMETER SURVEY  
**FELIX GRID**  
 GLENLYON LAKE AREA  
 HORIZONTAL SCALE 1" = 200'

JULY 1976  
 W.B.



105

BL  
 285° T

10N

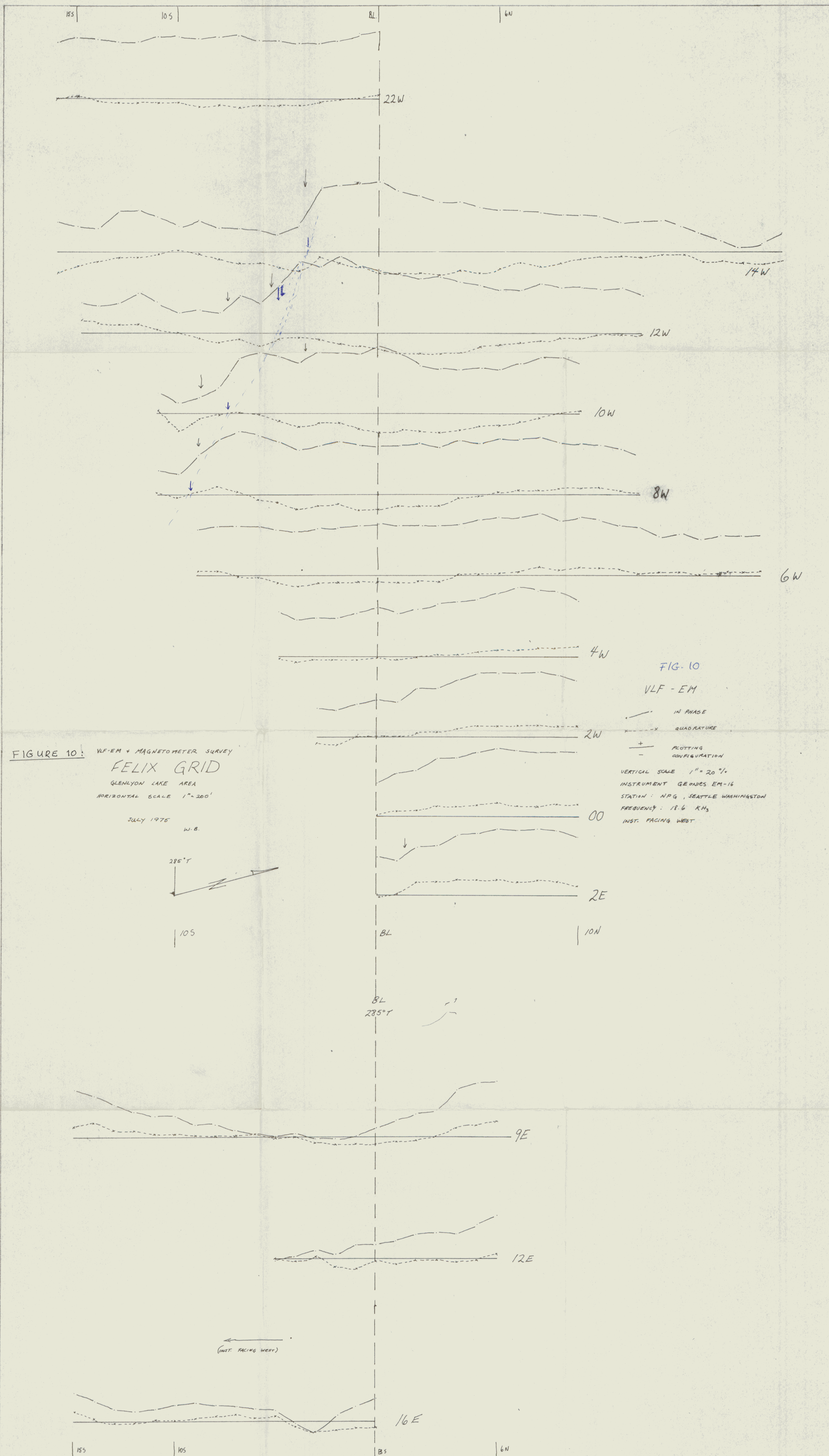
(INST. FACING WEST)

16E

FIG-10  
 VLF-EM

- IN PHASE
- - - QUADRATURE
- + PLOTTING CONFIGURATION
- PLOTTING CONFIGURATION

VERTICAL SCALE 1" = 20 %  
 INSTRUMENT GEONICS EM-16  
 STATION: NPG, SEATTLE WASHINGTON  
 FREQUENCY: 18.6 KHz  
 INST. FACING WEST



165

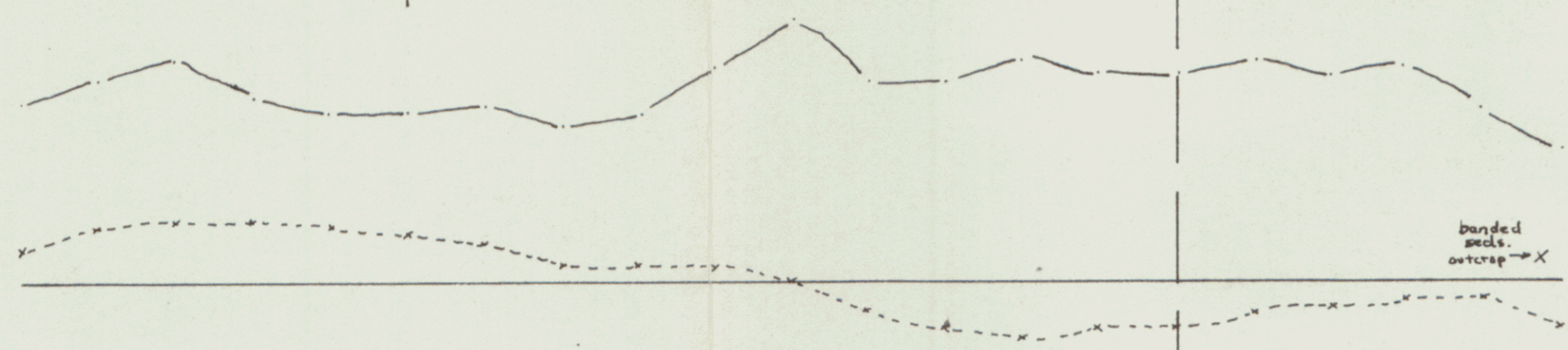
105

BL

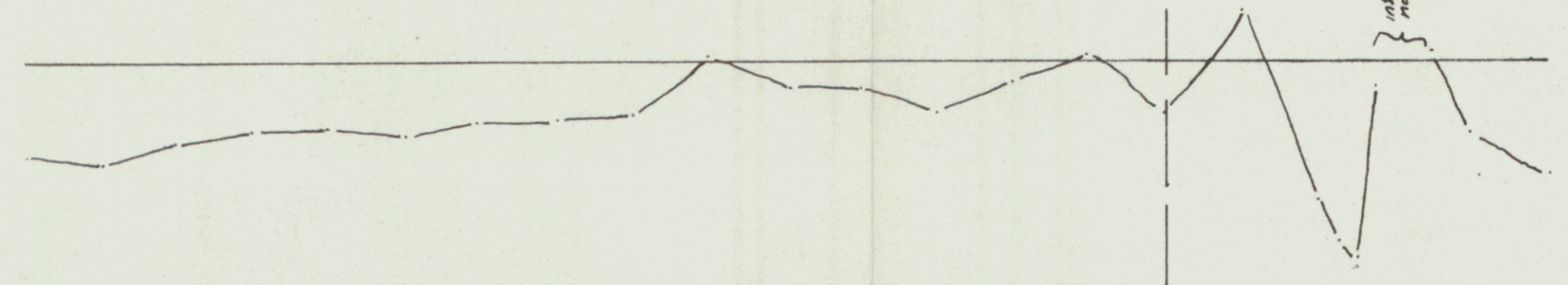
165

105

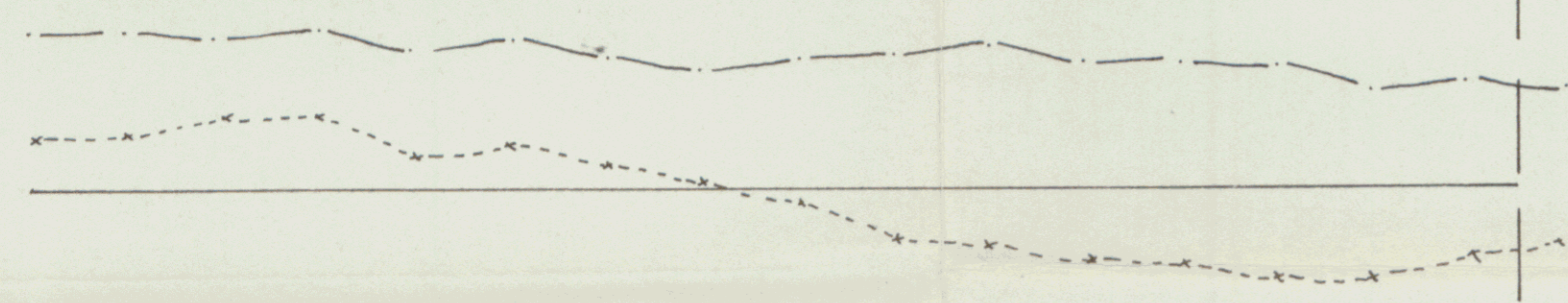
BL = 285° T



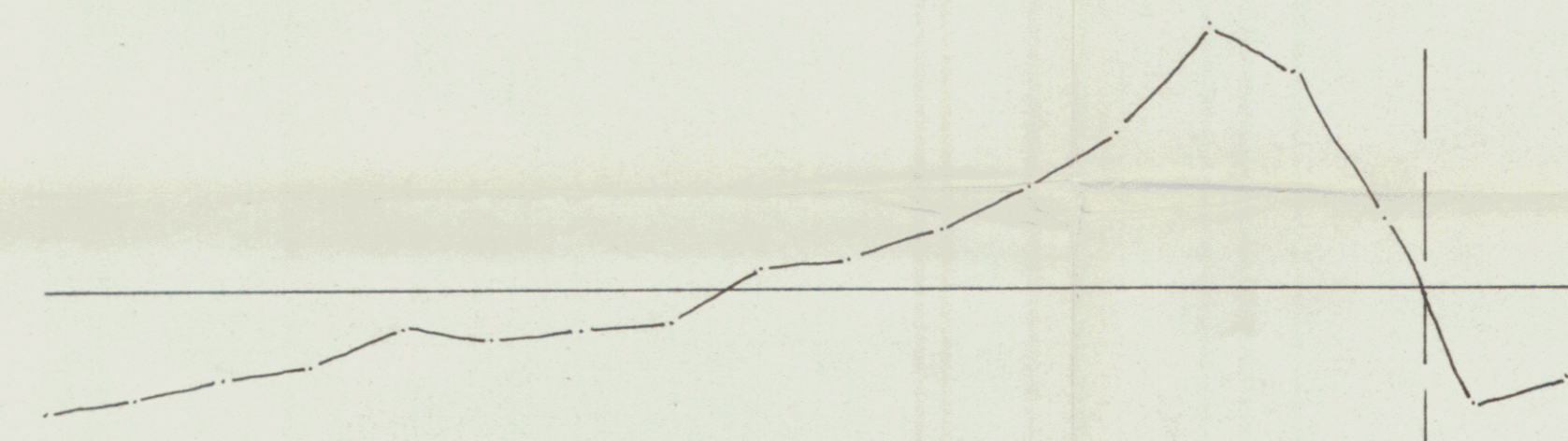
54W



54W



45W



45W



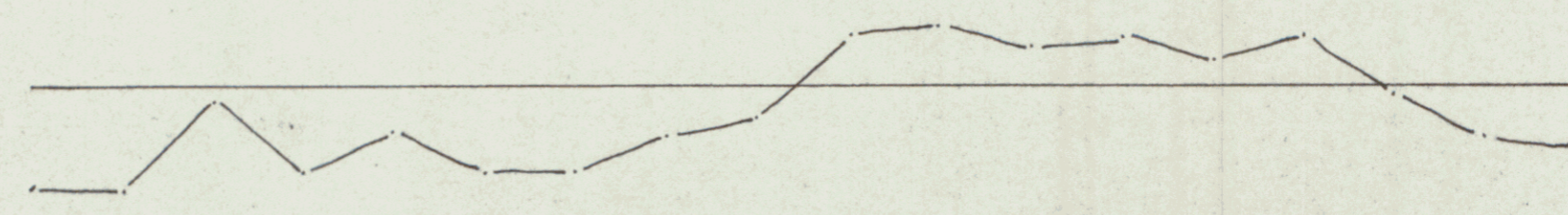
VLF-EM & MAGNETOMETER SURVEY  
**FELIX GRID**  
 GLENLYON LAKE AREA  
 HORIZONTAL SCALE 1" = 200'

JULY 1975  
 W.B.

VLF - EM  
 —•— IN PHASE  
 x---x QUADRATURE  
 + PLOTTING  
 - CONFIGURATION  
 VERTICAL SCALE 1" = 20 %  
 INSTRUMENT GEONICS EM-16  
 STATION : NPG, SEATTLE WASHINGTON  
 FREQUENCY : 18.6 KHz  
 INST. FACING WEST



38W



38W

165

105

165

105

BL

PROJECT FELIX 1-42

LOCATION

105.L-8

DDH NO. 5-1

DEPTH 23'6"

DATE STARTED:

COMPLETED:

ORIENTATION: STRIKE 220° ANGLE - 55°

July 20 ~~Feb~~ 1975

ELEVATION: -

DRILLED BY: ~~G. F. WINK INT.~~

COORDINATES: 1+60 W / 0+36 N

LOGGED BY: R. MOORE

SECTION:

SURVEYED:

INTERVAL (METERS) FEET	RECOVERY		GEOLOGY	DESCRIPTION	SAMPLE INTERVAL	ANALYSES			
	INT.	RECOVERED %				% WO <sub>3</sub>	% Zn	%	%
0' 4' 4'				breccia with irregular quartz, calcite vein stock work, dark green fragments (clasts),					
4' 8 1/2" 4' 2"				quartzite with thin bands of coarse grained garnet skarn. Mn brecciation.					
8' 2" 10' 2" 2'				garnet, diopside skarn. desseminated, dk. brown sphalerite, euhedral grains of scheelite. bed to C-axis ~ 45°	vis. est.	0.1	4.0		
10' 2" 12' 1' 10"				quartz, garnet sill(?)					
12' 13' 3" 1' 3"				Skarn desseminated sphal. & scheelite	Vis Est.	0.2	4.0		
13' 3" 14' 4" 1' 1"				fine grained garnet, diopside skarn					
14' 4" 18' 3" 3' 11"				granite dyke or sill.			Trace		
18' 3" 23' 6" 5' 3"				quartzite and quartz biotite gneiss. bedding to C-axis 55°					
END OF HOLE									
NB Drilling extremely slow using 3 hard rock bits. Hole is capped and probably reusable.									

PROJECT FELIX 1-42

LOCATION 105-L-8

DDH NO. 5-2

DEPTH 150' 6"

DATE STARTED:

COMPLETED:

ORIENTATION: STRIKE 220°

ANGLE -45

AUG. SEPT 1 1975

ELEVATION: -

DRILLED BY: WINK INT.

COORDINATES: 1430 W / 1400 N.

LOGGED BY: R. MOORE

SECTION:

SURVEYED:

INTERVAL (METERS) FEET	RECOVERY		GEOLOGY	DESCRIPTION	SAMPLE INTERVAL	ANALYSES			
	INT.	RECOVERED				%	%	%	%
0 35'6"	35'6"			0.b. boulders of biotite, quartz gneiss					
35'6" 45'	4'6"			1a.b. quartz, biotite gneiss, quartzite Bto @ 70°					
45' 55'4"	10'4"			1b. Sheared quartzite & gneiss, bad caving. ~ Shear zone					
55'4" 58'2"	2'10"			2a. quartz, garnet, diop. skarn					
58'2" 63'	4'10"			3. marble with garnet aggregates Core to bed. axis 60°					
63' 79'6"	16'6"			Siliceous garnet, diopside, skarn, minor intercalated gneisses and brecciation.	Trace Scheelite at 68'				
79'6" 88'4"	8'10"			quartzite					
88'4" 96'10"	8'6"			Skarn with Trace sphalerite.					
96'10" 98'	1'2"			granitic sill					
98' 99'	1'			skarn, garnet, diop.					
99' 107'6"	8'6"			quartzite with minor skarn					
107'6" 109'	1'6"			brecciated quartz, chlorite skarn?					

(continued)

INTERVAL (METERS)	RECOVERY			GEOLOGY	DESCRIPTION	SAMPLE INTERVAL	ANALYSES				
	INT.	RECOVERED	%				%	%	%	%	
109' - 113'8"	114'10"	115'10"		1a, b	quartzites & gneisses bedding to core @ 65° includes marble						
113'8" - 114'10"		1'2"									
114'10" - 124'6"		9'8"		1a	quartzites & gneisses						
124'6" - 133'4"		8'10"		3	marble, garnets minor skarn						
133'4" - 137'8"		4'4"		1a	gneisses & <sup>quartzite</sup> marble						
137'8" - 139'6"		1'10"		3	marble						
139'6" - 140'6"		1'6"		1a	quartzite bedding to core axis 85°						
140'6" - 148'		8'		3	marble with garnets.						
148' - 150'6"		2'6"		1a	quartzite distorted						
END OF HOLE											



# BONDAR-CLEGG & COMPANY LTD.

764 BELFAST ROAD, OTTAWA, ONTARIO, K1G 0Z5 PHONE: 237-3110 TELEX: 053-3548

CFN

## Certificate of Analysis

TO Union Carbide Expl.  
Faro Y.T.

REPORT NO. A-45-19  
DATE July 7, 1975

I hereby certify that the following are the results of analyses made by us upon the herein described rock samples

MARKED	%	%	%						
	Cu	Zn	Ag						
13776	0.05	0.09	0.17						
13777	0.02	0.23	0.17						
13778	0.01	8.10	0.18						
13779	<0.01	12.80	0.20						
13780	0.01	9.92	0.20						
WO <sub>3</sub> - results	to follow								

BONDAR-CLEGG & COMPANY LTD.

NOTE:



# Certificate of Analysis

TO Union Carbide Expl.  
601 - 1112 West Pender St.  
Vancouver, B.C.

REPORT NO. A-45-19

DATE July 11, 1975

I hereby certify that the following are the results of analyses made by us upon the herein described rock samples

MARKED	%								
	WO <sub>3</sub>								
13776	0.18								
77	0.10								
78	0.41								
79	0.15								
80	0.11								

*where from?  
Charlie?*

*14 July 75*

**NOTE:**

Rejects retained two weeks



# Certificate of Analysis

TO Union Carbide Expl.  
601 - 1112 W. Pender St.  
Vancouver, B.C.

REPORT NO. .... A-45-13 .....

DATE ..... July 8, 1975 .....

I hereby certify that the following are the results of analyses made by us upon the herein described ... rock ..... samples

MARKED	%								
	WO <sub>3</sub>								
A	0.04								
B	0.32								

UCB

Rec'd 14. 11. 75  
 Answer .....  
 File .....

BONDAR-CLEGG & COMPANY LTD.

NOTE:  
 Rejects re. .... d two weeks  
 Pulps retained three months

*[Handwritten Signature]*  
 .....

# Certificate of Analysis

TO Union Carbide Expl.  
601 - 1112 Pender Street  
Vancouver, B.C.

REPORT NO. A-45-13  
 DATE June 25, 1975

I hereby certify that the following are the results of analyses made by us upon the herein described rock samples

MARKED	%	%							
	Zn	Mo							
A	12.40	<.002							
B	4.80	<.002							
WO <sub>3</sub> - to follow									

*Cellulose group Y.T.*

NOTE:  
 Rejects re      d two weeks  
 Pulps retained three months

BONDAR-CLEGG & COMPANY LTD.

..... *[Signature]* .....